AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application.

1-27. (Cancelled)

28. (Withdrawn) A computer based method for obtaining a musculo-skeletal model of at least part of a body of a creature from a series of time-dependent optical three-dimensional images of the surface of said at least part of a body of a creature, the method comprising

- detecting anatomical surface information based on a topography of the surface in said series of time dependent optical three-dimensional image of the surface of said at least part of a body of a creature obtained in a contact-free manner, and
- reconstructing internal structures based on said detected anatomical surface information,

wherein said musculo-skeletal model is obtained without the use of synthetic markers attached to the surface of the body.

29. (Withdrawn) A method according to claim 28, wherein said series of time-dependent optical three-dimensional images of the surface of said at least part of a body

of a creature obtained in a contact-free manner is provided using structured light projection.

30. (Withdrawn) A method according to claim 28, wherein said series of time-dependent optical three-dimensional images of the surface of said at least part of a body of a creature obtained in a contact-free manner is provided using raster line triangulation.

31. (Withdrawn) A method according to claim 28, wherein said series of time-dependent optical three-dimensional images of the surface of said at least part of a body of a creature obtained in a contact-free manner is provided using stereoscopic techniques.

32. (Withdrawn) A method according to claim 28, wherein said series of time-dependent optical three-dimensional images of the surface of at least part of said body of a creature obtained in a contact-free manner is provided by obtaining said three-dimensional images whereby each of a width, height and depth of said three-dimensional images can have a length up to 1,2 m.

33. (Withdrawn) A method according to claim 28, wherein said time-dependent three-dimensional image of the surface of said at least part of the body of a creature obtained in a contact-free manner is provided using a multi-view system.

34-36. (Cancelled)

37. (Withdrawn) A method according to claim 28, wherein said reconstructing internal structures comprises at least one of the group of bones, ligaments, tendons and muscles.

38. (Withdrawn) A method according to claim 28, wherein said anatomical surface information are landmarks.

39. (Withdrawn) A method for collecting data suitable for diagnostics of disorders in creatures, comprising building a computer based musculo-skeletal model obtained according to the method of claim 28.

40. (Withdrawn) A system for obtaining a musculo-skeletal model of at least part of a creature, the system comprising

- means for providing a series of time-dependent optical three-dimensional images of a surface of said at least part of a body of a creature obtained in a contact-free manner,

- means for detecting anatomical surface information on said series of time dependent optical three-dimensional images of a surface of said at least part of a body of a creature obtained in a contact-free manner, and
- means for reconstructing internal structures based on said detected anatomical surface information

wherein the system is adapted to obtain the musculo-skeletal model without the use of synthetic markers attached to the surface of the body.

41. (Withdrawn) A system according to claim 40, wherein said means for providing a series of time-dependent optical three-dimensional images of a surface of said at least part of a body of a creature obtained in a contact free manner comprises a means for obtaining in a contact free manner optical three-dimensional images of the surface of said at least part of a body of a creature.

42. (Withdrawn) A system according to claim 40, wherein said anatomical surface information are landmarks.

43. (Currently Amended) A computer based method for detecting and/or extracting from a series of time-dependent images of a surface of body parts of a creature anatomical features on surface measurements, said method comprising using invariant

feature analysis to determine anatomical landmarks and shapes using said computer, wherein said invariant feature analysis comprises ~~fulfilling~~ using said computer to fulfill predetermined conditions describing topographic characteristics of the surface of the body parts of the creature and ~~fulfilling~~ using said computer to fulfill predetermined conditions describing topographic, topologic and/or volumetric characteristics of the interior of the body parts of the creature, and

wherein said topographic characteristics of the surface of the body parts of the creature are curvature and symmetry of surface parts of the body parts of the creature

and said topographic, topologic and/or volumetric characteristics of the interior of the body parts of a creature are the relative position, bending, torsion, equidistance and dynamical properties of interior parts of the body parts of the creature.

44-45. (Cancelled)

46. (Previously Presented) The method according to claim 43, wherein said predetermined conditions describing topographic characteristics of the surface of the body parts of the creature and said predetermined conditions describing topographic, topologic and volumetric characteristics of the interior of the body parts of the creature are determined by biomechanical constraints.

47-54. (Cancelled)

55. (Currently Amended) A computer program product comprising a computer-readable medium comprising a computer-readable program code embodied therein, said code adapted to be executed to implement ~~for executing~~ the method as claimed in claim 43.

56. (Previously Presented) A machine readable data storage device storing the computer program product of claim 55.

57. (Currently Amended) ~~Transmission of the computer program product of claim 55 over a local or wide area telecommunications network~~ A method of transmitting a computer-readable program code, said method comprising using a computer to transmit said computer-readable program code over a local or wide area telecommunications network, wherein said computer-readable program code is embodied in a computer-readable medium and is adapted to be executed to implement the method as claimed in claim 43.

58-63. (Cancelled)

64. (Previously Presented) The method according to claim 43, wherein said invariant feature analysis comprises active contour modelling.

65. (Previously Presented) The method according to claim 64, wherein said active contour modelling is based on optimising a finite number of active contour points, all said active contour points substantially being at an equal distance.

66. (Previously Presented) The method according to claim 43, wherein said invariant feature analysis comprises active shape modelling.

67. (Currently Amended) A computer program product comprising a computer-readable medium comprising a computer-readable program code embodied therein, said code adapted to be executed to implement ~~for executing~~ the method as claimed in claim 64.

68. (Previously Presented) A machine readable data storage device storing the computer program product of claim 67.

69. (Currently Amended) ~~Transmission of the computer program product of claim 67 over a local or wide area telecommunications network~~ A method of transmitting a

computer-readable program code, said method comprising using a computer to transmit said computer-readable program code over a local or wide area telecommunications network, wherein said computer-readable program code is embodied in a computer-readable medium and is adapted to be executed to implement the method as claimed in claim 64.